Practical Uses of Math And Science (PUMAS)

RALPH KAHN, Jet Propulsion Laboratory/California Institute of Technology, MS 169-237, 4800 Oak Grove Drive, Pasadena, CA 91109. Tel.: 818-354-9024; FAX: 818-393-4619; e-mail: ralph.kahn@jpl.nasa.gov

NASA program directors and other leaders of the scientific community have been asking working scientists and engineers to contribute to pre-college education. What can we do that will really help? Few of us have the time or the background to teach long-division to third graders, or to develop middle-school science "curricula."

One thing working scientists know is how the science and math taught in pre-college classrooms is really used. Teachers already have textbooks. But the exercises in them are often routine and uninteresting, written by people with only limited experience at actually using the ideas presented. It occurred to me that teachers might find our experiences to be of value.

So we created PUMAS (**poo' ·mas**), which stands for Practical Uses of Math And Science. PUMAS is a journal -- a growing collection of one-page examples illustrating how math and science topics taught in K-12 classes can be used in interesting settings, including everyday life.

Examples may be activities, anecdotes, descriptions of "neat ideas," formal exercises, puzzles, or demonstrations. They are written primarily by scientists, but anyone with a good example may submit it to PUMAS. Examples are intended mainly to help teachers enrich their presentation of math and science topics. Anyone may access the examples, via the PUMAS Web Site.

PUMAS examples may be written in any style that serves the material well. All examples are peer-reviewed by at least one scientist with a relevant background, and at least one teacher at an appropriate grade level. Once accepted, the example is a citable reference than can be included in your curriculum vita.

Users can search the PUMAS collection based on curriculum topic, grade level, or subject. They can then scan through the relevant examples, and develop ideas of their own about how to use the material in the classroom. This puts the job of "integration into the lesson plan" on the teacher, who is in the best position to judge the students' needs, abilities, and interests.

Interested in participating? You might have a look at the examples already in the PUMAS collection. We need teachers at all grade levels and scientists to volunteer for the pool of PUMAS reviewers. And we are always looking for good examples of the Practical Uses of Math And Science.

The PUMAS Web Site: http://pumas.jpl.nasa.gov